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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,184	07/08/2003	Kang Soo Seo	1740-000009/US	7102
30593 7590 11/29/2007 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			EXAMINER ZHAO, DAQUAN	
			ART UNIT 2621	PAPER NUMBER
			MAIL DATE 11/29/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/614,184

Applicant(s)

SEO ET AL.

Examiner

Daquan Zhao

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,5,9,12,15,18,22 and 36-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,9,12,15,18,22,36-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### **Claim Status**

Claims 2,4,6-8,10-11,13-14,16-17,19-21, 23-35 are canceled; claims 40-46 new.

### ***Response to Arguments***

1. Applicant's representative argues, in pages 10-11 of the remark, claim 1 is statutory subject matter.
2. MPEP §2106.01(I) further states, regarding *functional* descriptive material, that "a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory." Claim 1 does not present any computer and hardware components which permit the data structure's functionality to be realized. Therefore, claim 1 is not statutory subject matter.
3. Other applicant's arguments with respect to claim 1, 4, 5, 9, 12, 15, 18, 22, 36-46 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 3, 5, 9, 12, 15, 18 and 22 are rejected under 35 U.S.C. 101 because "data structure" in claim 1 is considered to be nonfunctional descriptive material.

When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.”). Such a result would exalt form over substance. In *re Sarkar*, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978) (“[E]ach invention must be evaluated as claimed; yet semantogenic considerations preclude a determination based solely on words appearing in the claims. In the final analysis under § 101, the claimed invention, as a whole, must be evaluated for what it is.”) (quoted with approval in *Abele*, 684 F.2d at 907, 214 USPQ at 687). See also *In re Johnson*, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) (“form of the claim is often an exercise in drafting”). Thus, nonstatutory music is not a computer component, and it does not become statutory by merely recording it on a compact disk. Protection for this type of work is provided under the copyright law.

Claims 3, 5, 9, 12, 15, 18 and 22 are also affected.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3, 5, 9, 15, 18, 22, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takao (US 7,000,246 B1) and further in view of Kikuchi et al (US 5,870, 523).

**Regarding claim 1**, Takao teaches a recording medium having a data structure for managing reproduction of video data recorded on the recording medium, comprising: at least one navigation area storing navigation management information for managing real-time reproduction path video data recorded on the recording medium (e.g. column 10, lines 54-67, video data are reproduced in accordance with the navigation data); and wherein said navigation management information includes at least one navigation unit comprising a plurality of video data packets and a plurality of real-time navigation packets (e.g. figure 29, column 21, lines 60-64, wherein NVT1 and NVT2 correspond to plurality of real-time navigation packets, ES(V) 11 and ES(V)12 correspond to plurality of video data packets. The area of recording medium from the beginning of the first SIT to the beginning of the next SIT corresponds to the navigation management information area). However, Takao fails to teach multiple reproduction path video data. Kikuchi et al teach multiple reproduction path video data (figure 34, column 20, lines 35-65). It would be obvious to one of ordinary skill in the art at the time the invention was made to have

incorporated the teaching of Kikuchi et al into the teaching of Takao for easy special playback (Kikuchi et al, column 1, lines 40-44).

**Regarding claim 36** is rejected for the same reasons as discussed in claim 1 above with further limitations. Takao teaches a method of recording a data structure for managing reproduction of real-time navigation video data on a recording medium comprising: recording navigation management information for managing real-time navigation video data in at least one navigation area of the recording medium (see discussion of claim 1 above); and recording at least one navigation unit having a plurality of video packets and real-time navigation packets (see discussion of claim 1 above), each of said plurality of real-time navigation packets having a package identification number different from each of said plurality of video packets (e.g. figure 9, column 4, lines 32-40, NVT1 and NVT2 has different ID from the video packets).

**Claim 37** is rejected for the same reasons as discussed in claim 36 above.

**Regarding claim 38**, Takao teaches recording a data structure for managing reproduction of real-time navigation video data on a recording medium comprising: recording navigation management information for managing real-time navigation video data in at least one navigation area of the recording medium (see discussion of claim 1 above); and recording at least one navigation unit having a plurality of video packets and real-time navigation packets (see discussion of claim 1 above), each of said plurality of real-time navigation packets having a package identification number different from each of said plurality of video packets (e.g. figure 9, column 4, lines 32-40). Takao

fails to teach a driver for driving an optical recording device to record data on the recording medium; a coder for encoding video data; and a controller for controlling the driver to record the encoded video data on a recording medium, the controller for controlling the driver to navigation information. Kikuchi et al teach a driver for driving an optical recording device to record data on the recording medium (e.g. figure 1, DISK DRIVE SECTION 30); a coder for encoding video data (e.g. figure 1, Video Encoder Section 58); and a controller for controlling the driver to record the encoded video data on a recording medium, the controller for controlling the driver to navigation information (e.g. figure 1, system CPU). It would have been obvious for one ordinary skill in the art at the time the invention was made to have utilized the recording/reproducing apparatus disclosed by Kikuchi et al to record or reproduce the data structure, taught by Takao, for easy special playback (Kikuchi et al, column 1, lines 40-44).

**Claims 39 and 45** are rejected for the same reasons as discussed in claim 38 above.

**Regarding claim 3**, Takao teaches each of said plurality of real-time navigation packets having a package identification number different from each of said plurality of video packets (e.g. figure 9, column 4, lines 32-40).

**Regarding claim 5**, Takao teaches each said plurality of real-time navigation packets are sequentially recorded in the at least one navigation unit (e.g. figure 29 shows NVT1 is recorded followed by NVT2).

**Regarding claim 9**, Takao teaches each of said plurality of real-time navigation packets includes a header portion and a payload portion (e.g. figure 4, PID corresponds to the header and “content data” corresponds to the payload portion).

**Regarding claim 15**, Takao teaches plurality of real-time navigation packets are discontinuously recorded in the navigation unit (e.g. figure 29 shows NTV1 and NTV2 are discontinuously recorded).

**Regarding claim 18**, Takao teaches each of said plurality of real-time navigation packets includes a header portion and a real-time navigation section data portion (e.g. column 2, lines 45-53, the control data corresponds to the navigation data).

**Regarding claim 22**, Kikuchi et teach aligning with at least one physical unit of the recording medium (e.g. column 10, lines 20-25).

**Regarding claim 40**, Kikuchi et al teach each of plurality of real-time navigation packets are physically aligned with at least one corresponding physical recording unit of the recording medium (e.g. column 10, lines 20-25, each packet is stored in a physical (or logical) sector, figure 6 shows plurality of VOBUs, wherein each VOBUs has a NAV pack); wherein each of the plurality of real-time navigation packets are physically aligned with a at least one corresponding file system allocation unit (e.g. column 9, lines 55-65, each sector has 2048 bytes, “1 bytes” corresponds to “file system allocation unit”), and wherein each of the plurality of real-time navigation packets are physically aligned with more than one corresponding file system allocation unit (e.g. column 9, lines 55-65, each sector has 2048 bytes, “1 bytes” corresponds to “file system allocation unit”).



**Regarding claims 41, 42, 43 and 44,** Kikuchi et al teach the multiple reproduction pather video data includes different versions of a title (e.g. column 20, lines 35-65, different angle corresponds to "different versions of a title).

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takao (US 7,000,246 B1) and Kikuchi et al (US 5,870,523) as applied to claims 1, 3, 5, 9, 15, 18, 22, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45 above, and further in view of Shimoji et al (US 2004/0,088,739 A1).

See the teaching of Takao and Kikuchi et al above.

**Regarding claim 12,** Takao and Kikuchi et al fail to teach at least one real-time navigation table for storing a plurality of real-time navigation packets each having the same packet identification code. Shimoji et al teach at least one real-time navigation table for storing a plurality of real-time navigation packets each having the same packet identification code (e.g. figure 28 A, paragraph [0336], PIDs 0x0092 corresponds to the same packet identification code. "7405" corresponds to the navigation table which contains plurality tables). It would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate the teaching of Shimoji et al into the teaching of Takao for user easily to organize the broadcasting information since Shimoji et al suggest in paragraph [0005] to all user to interactively select image information accordance with the content of the image information received.

7. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takao (US 7,000,246 B1) and Kikuchi et al (US 5,870,523) as applied to claims 1, 3, 5, 9, 15, 18, 22, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45 above, and further in view, and further in view of Watanabe (US 7,103,268 B2).

See the teaching of Takao and Kikuchi et al above.

For claim 46, Takao and Kikuchi et al fail to teach each of said plurality of real-time navigation data is physically aligned with a corresponding physical unit of the recording medium, including an error correction code allocation unit, and wherein each of said error correction code allocation units includes a plurality of error correction code areas, corresponding to plurality of alignment units, which in turn correspond to a plurality of section units which correspond to a plurality of transport packets representing the real-time navigation data.

Watanabe teaches each of said plurality of real-time navigation data is physically aligned with a corresponding physical unit of the recording medium, including an error correction code allocation unit (e.g. column 1, lines 52-59, 16 packs NV\_PCK included in one ECC block), and wherein each of said error correction code allocation units includes a plurality of error correction code areas (16 sectors), corresponding to plurality of alignment units (each sector is an alignment unit), which in turn correspond to a plurality of section units which correspond to a plurality of transport packets representing the real-time navigation data (each packet is stored in a sector as taught by Kikuchi et al). It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teaching of Watanabe into the teaching of

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Takao and kikuchi et al to increase the speed and the efficiency of decoding processing (Watanabe, column 2, lines 1-12).

Applicant's amendment necessitated the new ground(s) of rejection presented in this office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEG § 706.07 (a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136 (a).

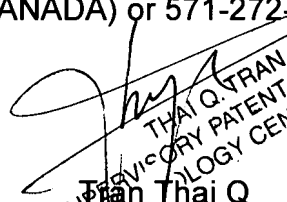
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing data of this action. In the event a first reply is filed within TWO MONTHS of the mailing data of this action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period. Then the shortened statutory period will expire on the data the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing data of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the data of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daquan Zhao whose telephone number is (571) 270-1119. The examiner can normally be reached on M-Fri. 7:30 -5, alt Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Thai Q, can be reached on (571)272-7382. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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